

CLAIMS:

1. A low frequency loudspeaker comprising: a driver having a cone diaphragm with an inner suspension and an outer suspension; and a further diaphragm mechanically connected to said cone diaphragm between said inner and outer suspensions and having a first edge which is mechanically terminated, said further diaphragm being substantially flat, having a second edge defining aperture for passage of acoustic energy from said cone diaphragm and extending laterally outwardly of said cone diaphragm.
2. A loudspeaker as claimed in claim 1, in which said first edge has a mechanical termination which is substantially rigid.
3. A loudspeaker as claimed in claim 1, in which said first edge has a mechanical termination which is resilient.
4. A loudspeaker as claimed in claim 1, comprising a mechanical connection between said cone diaphragm and said further diaphragm which is substantially rigid.
5. A loudspeaker as claimed in claim 4, in which said cone diaphragm is directly connected to said further diaphragm.
6. A loudspeaker as claimed in claim 4, in which said cone diaphragm is connected to said further diaphragm by a substantially rigid intermediate member.
7. A loudspeaker as claimed in claim 1, comprising a mechanical connection between said cone diaphragm and said further diaphragm which is resilient.
8. A loudspeaker as claimed in claim 7, in which said cone diaphragm is connected to said further diaphragm by a resilient intermediate member.

9. A loudspeaker as claimed in claim 6, in which said intermediate member is annular.
10. A loudspeaker as claimed in claim 8, in which said intermediate member is annular.
11. A loudspeaker as claimed in claim 10, in which said intermediate member is made of a cellular material.
12. A loudspeaker as claimed in claim 1, in which said cone diaphragm is connected to said further diaphragm adjacent said second edge.
13. A loudspeaker as claimed in claim 1, in which said cone diaphragm is connected to said further diaphragm adjacent said outer suspension.
14. A loudspeaker as claimed in claim 1, in which said inner and outer suspensions are connected to said cone diaphragm at inner and outer edges, respectively, of said cone diaphragm.
15. A loudspeaker as claimed in claim 1, in which said further diaphragm is made of a laminar material.
16. A loudspeaker as claimed in claim 15, in which said laminar material comprises first and second layers connected together by a corrugated layer.
17. A loudspeaker as claimed in claim 15, in which said laminar material is a plastics material.
18. A loudspeaker as claimed in claim 1, in which said further diaphragm has a lateral dimension which is substantially equal to or greater than twice a lateral dimension of said cone diaphragm.

19. A loudspeaker as claimed in claim 18, in which said lateral dimension of said further diaphragm is less than three times said lateral dimension of said cone diaphragm.

20. A loudspeaker as claimed in claim 1, in which said further diaphragm is substantially rectangular and is mechanically terminated at said first edge by a substantially rectangular frame having inside corners which are rounded in a transverse plane.

21. A loudspeaker as claimed in claim 1, in which said driver comprises an electromagnetic motor for driving said cone diaphragm.

22. A loudspeaker as claimed in claim 21, in which said driver comprises a chassis defining a substantially frustoconical volume in which said motor is disposed.